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ABSTRACT

This document contains three papers from a symposium on increasing job satisfaction that was conducted as part of a conference on human resource development (HRD). "A Systematic Model of Job Design by Examining the Organizational Factors Affecting Satisfaction" (Zhichao Cheng, Danyang Yang, Fenglou Liu) reports on a project in which multiple stepwise regression analysis and factor analysis were used to identify the main organizational variables affecting Chinese satisfaction in work design and proceeds to use the identified variables to develop a systematic job design model to improve the Job Characteristics Theory. "Are Managerial Women Getting What They Need to Succeed? A Look at Job Satisfaction" (Julia Morrison Chambers) reports on a national study of job satisfaction and other variables that revealed definite differences between managers and executives that may serve as a basis for the design of incentive and development programs. "An Assessment of the Validity of the Natural Work Goals Profile" (C. Layden Colby, R. Wayne Pace) reports on a study that used a test-retest method to examine the construct validity and reliability of the Natural Work Goals Profile with respect to male junior and mid-level enlisted Army personnel. The papers contain reference sections. (MN)

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2000 AHRD Conference

Increasing Job Satisfaction

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Symposium 22

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A Systematic Model of Job Design by Examining the Organizational Factors Affecting Satisfaction

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By multiple stepwise regression analysis and factor analysis, we found the main organizational variables which affect Chinese satisfaction in work design, and proved that the job characteristics are not independent in organization., they are influenced by some organizational characteristics. According the conception of the open social-technical system of organization and results above, a systematic model in job design to improve the Job Characteristics Theory with the organizational characteristics were advanced.

Keywords: Job Design Model, Job Satisfaction, Organizational Factors

Since the Two-Factors Theory was given by Herzberg(1968), there are many researchers have been done in order to find a best way to motivate employees. The typical one is Hackman's study of job characteristics in job redesign in 1980. In his study, Hackman advanced the Job Characteristics Theory of Work Motivation, and pointed out that the employee's performance depended on his three Critical Psychological States which was influenced by five Core Job characteristics of job: skill variety, task identity, task significance, autonomy, feedback from the job itself. However, he did not indicate whether these five Core Job Characteristics were affected by organizational factors.
In fact, there are some indications that job characteristics were not the only factor that affects the employee's critical psychological state, especially job satisfaction. With the economic reform in China, the employee's enthusiasm in most state enterprises is lower than that in private enterprises, collective enterprises, or other kinds of enterprises. The fact is all there. So, we can not ignore the organizational factor among all influencing factors. There also is a similar sign in the western private enterprise , e.g., the IBM and other American private companies are learning from Japanese enterprise, such as SONY and TOYOTA.

All of the indications show us that some organizational characteristics, especially those depend on the culture of organization, may participate in influencing the employee's performance. They, perhaps, act on individual directly or indirectly by means of affecting some core job characteristics.

Thus, it would be very essential for us to make a systematic study on the organizational features in order to establish a systematic model and find a best way in job design or redesign to raise human performance.

Job Satisfaction and Organizational Influence

For the manager, the key fact is that some workers achieve a sense of satisfaction with their jobs, while others do not. So, the debate over whether people are really satisfied or dissatisfied with their work is likely to continue. The manager's task is to discover what work means to individual subordinates at given points in time and strive to help to make that meaning as positive as possible. The concept of job satisfaction can help the manager master this task. This concept recognizes that the ultimate meaning of work to an individual will be determined by such things as the task performed, the organization and the work unit within the job exists, and the co-workers, and other persons with whom the individual interacts.

Job satisfaction is the degree to which an individual feels positively or negatively about the various facets of job-tasks, the work setting and relationships with co- workers. It may be affected by many factors, such as the company's policy, supervision, work conditions, relationships with peers, responsibility, advancement, and achievements etc.. After analyzing almost four thousand responses to his survey, Frederick Herzberg and his associates developed one of the most frequently praised and criticized theory in organizational behavior (OB),

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named the Two-factor Theory.

In Herzberg's research, the sources of job dissatisfaction are associated with the job context. That is, job dissatisfaction was linked more to the work setting than to the work itself. Herzberg refers to the sources of job dissatisfaction as hygiene factors. The hygiene factors include such things as working conditions, interpersonal relations, organizational policies and administration, supervision, and salary. Herzberg argues that improving a hygiene factor such as working conditions cannot make people satisfied with their work. It will only prevent them from being unhappy. To improve job satisfaction, the manager's attention must shift to motivation factors. Achievement, recognition, work itself, responsibility, and achievements are the motivation factors. They are part of job content, that is, they are related to what people actually do in their work. Herzberg refers to them as motivation factors. To Chinese workers, however, what are the hygiene factors or the motivation factors? With the China's economy reform, the workers' enthusiasm in most state enterprises is lower than that in private enterprises, collective enterprises, and other kinds of enterprises, though facing the same task. So, perhaps, the main influencing factors are the organizational variables. The fact is all there.

The sign shows us that Chinese employees' satisfaction may be influenced by some organizational factors. In other words, it would be very necessary for us to examine and define the organizational effects of state enterprises systematically so that a best way may be found to motive Chinese workers with the organizational reform. This study tests the main affecting variables of organization.

2 Theoretical Framework

2.1 Hackman's Job Characteristics Theory

As we know, Taylor is the earliest one who studied the job features. His scientific principles of managing was a traditional study of job traits in work design. Other researchers, Arth, Turner, and Lawerence etc., had studied the relation between the objective traits of job and the employee's reactions to the job traits. They found that the employee's reactions are different with different culture background.

Hackmam & Lawler are the founders of the modern theory on job characteristics. They maintained that it was essential to advance a theoretical framework in order to predict the relationships between job characteristics and employee's reactions. On the basis of Vroom's Expectation Theory(1964) and Maslow's Hierarchy of Needs Theory(1943), they advanced a framework on job characteristics and employee's reactions, and found five core characteristics of job : task identity, task significance, skill variety, autonomy, and feedback from the job itself.

They hold that the employee's reactions to his job were determined by his perception to the job characteristics, rather than the objective traits of job. In their framework, they suggested that the employee's critical psychological state, which included the experienced meaningfulness of the work, experienced responsibility for outcomes of the work, and knowledge of actual results of the work, depend on five core job characteristics, and determined his working behaviors at the same time(see figure 1).

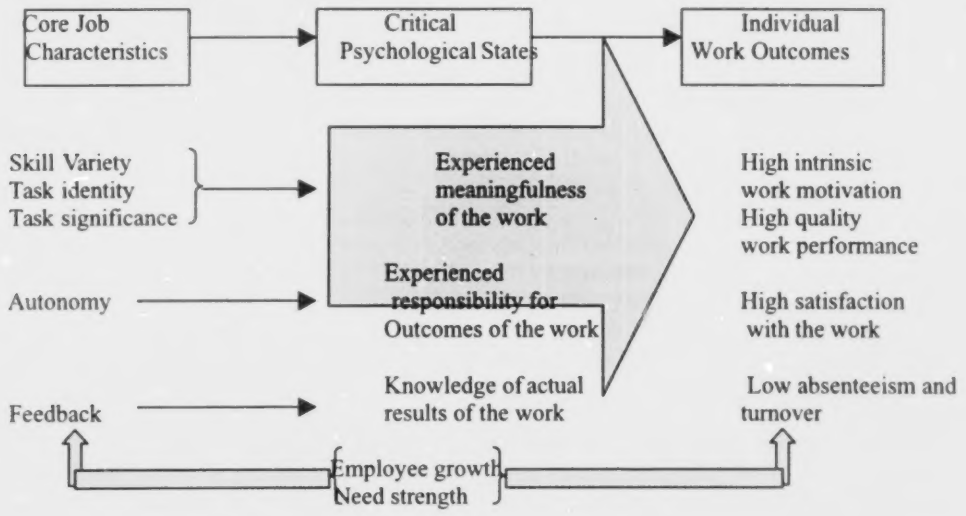

Figure 1 Hackman & Lawler's framework

In 1971, Richard Hackman and Edward Lawler reported a theory that attempted to identify when jobs will provide high levels of intrinsic work motivation. Their theory was tested in a sample of telephone company employees, with positive results.

The current version of this theory is shown in Figure 1. Five core job characteristics are identified as being task attributes of special importance to job designs. A job that is high in the core characteristics is said to be enriched. The core job characteristics and their definitions are

Skill Variety:

The degree to which a job requires a variety of different activities in carrying out the work and involves the use of a number of different skills and talents of the employee.

Task Identity:

The degree to which the job requires completion of a "whole" and identifiable piece of work, that is, one that job involves doing a job from beginning to end with a visible out.

Task Significance:

The degree to which the job has a substantial impact on the lives or work of other people elsewhere in the organization or in the external environment.

Autonomy:

The degree to which the job gives the employee substantial freedom, independence, and discretion in scheduling the work and in determining the procedures to be used in carrying it out.

Feedback from the Job Itself:

The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information on the results of his or her performance.

2.2 A New Strategic Systematic Model of Job Design

Being an open social-technical system, the organization could be considered as a system which consists of some hard and soft subsystems. Structure, material, and technology make up the hard subsystem, and the soft subsystem is formed of social psychological subsystem,objective and value subsystem, managerial subsystem, and any other soft subsystems. This is a cross section of organization. If the organization was cut off vertically, meanwhile, it would display a stereoscopic structure: strategy, coordination, work, and individual. All of the cross and vertical subsystems, and the hard and soft subsystems make up the general characteristics of organization.

Size, structure, and technology make up the hard features of organization. They are the main feature. The technical feature prominently affects not only the managerial system, but also the coordinate system. The organization with stable technology takes care of the effective objects, the other with dynamic technology pays attention to solve the problems (Kast,1979). Kast pointed out that technology was a key factor to determined task and degree of specialization. If the work were improved only with technology and engineering, the improvement would disintegrate the social subsystem of organization and hinder the technology from putting into effect. The technical feature, hence, would be a essential variable in work study.

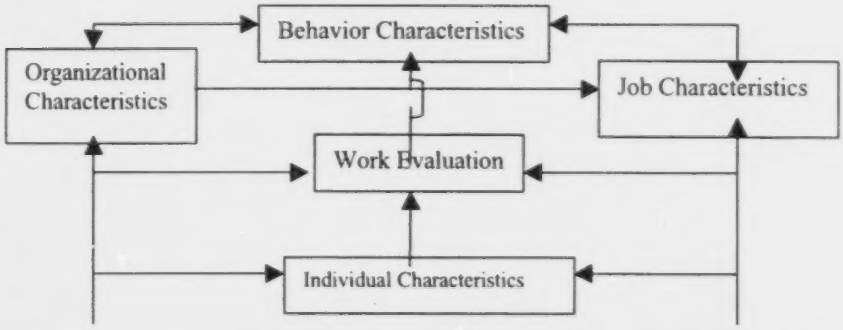

Figure 2 A new strategic systematic model of job design

There also are other hard variables: the effective degree of organizational structure and functions, the object of organization, the policy of personnel and distribution system. Meanwhile, the climate, participation, motivation, creative and cooperative power, value outlook, the philosophy of managing and the stability of organization are the

soft main characteristics of organization.

With the results of stepwise-regression analysis in my study, we found that the employee's participating behavior was influencing by the effective functions and the value outlook of organization.

All of the parts in this model (figure 2) are not independent, except the individual characteristics. They are interrelated and interact on each other directly or indirectly. Each part, being a subsystem, consist of some main characteristics variables. Only when had the systematic study on these variables' relationships been done, the improvement on the organization and job would be brought into effect.

3 Method and Procedure

The traditional studies in organizational theories apply higher structural and closing method. Modern organizational theories suggest an open and systematic method and consider the organization as an open social-technical system which consists of some relative subsystems.

With the concept of the open social-technical system of organization, enterprise will never be a close production system. It were necessary not only to take the inter-behaviors into standardization, but also to study the effect of social subsystem and technical subsystem, if the enterprise would make the job and organizational redesign effective.

According to the concept of open social-technical system of organization, the framework in job design must consist of three subsystems at least: organizational subsystem, work subsystem, and individual subsystem.

3.1 General Measuring Job Satisfaction

Researchers go to great lengths to create good measures of job satisfaction One straightforward approach is to simply ask people to respond orally or in writing to a question such as this.

How satisfied are you with your present job?

not at all somewhat extremely

1 2 3 4 5

Lets measure your"job", satisfaction. Circle the response in the previous question that best reflects your feelings so far about one of your courses. Assume everyone else in the class also answers the question for the same course. Suppose, too, that your instructor collects and summarizes the responses. What would the instructor know if the average of all responses to the question was 3.5? Is this a good, bad, or in-between satisfaction score? Actually, it is very hard to say if the 3.5 is good or bad as a satisfaction score. It is hard to know whether or not people share the same meanings for the terms "somewhat" and "extremely." Furthermore, it is likely that there are some aspects of the course that you find to be more satisfying than others. Perhaps, you had hard time deciding how to respond to the course satisfaction question because of this.

Some instructor would really like to know what he or she can do to improve the course and raise the average satisfaction score. Once again, the single question measure of job or course satisfaction proves deficient, since it gives the instructor no insight into what facets of the course could be improved upon. It is also deficient because it is not as reliable as multiple items in measuring the same concept. That is , single item measures are answered less consistently than those with more items.

Because of problems like the above, researchers try to use multi-item measures of various facets of work that can became sources of satisfaction and dissatisfaction.

The instrument is called the Job Descriptive Index, or JDI for short. The JDI measures five facets of job satisfaction the work itself, quality of supervision, people on present job (co-workers), promotion, and pay. Each of these facets can be a source of meaning in work, and each represents a possible inducement to work. Instruments by the JDI are important to both researchers who are interested in learning about the sources of job satisfaction and its consequences, and to managers who are interested in predicting and controlling these outcomes.

3.2 The Job Diagnostic Survey(JDS)

In Hackman's study, they designed the Job Diagnostic Survey(JDS), which consisted of 78 items. Using the TDS to test the employee's perceptions to the job characteristics, critical psychological state, satisfaction, and others, we could find the problems in work system, and decide the necessity and feasibility on the work redesign. With the results of testing, we could improve the managing method and evaluate the work redesign.

3.3 Procedure of This Study

First step, we selected the samples of enterprises and typical working position.

Secondly, interview the employees randomly.

Thirdly, a questionnaire was designed to measure job satisfaction and modified according to the pre-measure.

Then, Survey

Next step, statistics and analysis.
Finally, results and recommendation tactic for job improvement.

3.4 Method of this study

According to the reasons above and Chinese personality, the questionnaire with five point scales was designed and used in this study, which consisted of forty items. One hundred and seventy workers were selected as the subjects at random from three state enterprises in different districts: the city of Shanghai, Tianjin and the city of Jilin. The subjects were asked to finish the questionnaire separately at the same time in their enterprise.

The SPSS(Statistic package of social science) was used to deal with the data of the workers' responses. The test-retest stability of the questionnaire is 0.81 . All of the organizational items were compounded twelve variables by factor analysis: the effective degree of organizational structure and functions, the object of organization, the policy of personnel and distribution, the climate, participation, motivation creative power, value outlook, the philosophy of managing and the stability of organization.

4 Results and Discussion

4.1 Job satisfaction affected by the organizational factors

In this study, a stepwise-regression was done to the organizational effects on the workers' satisfaction. The job satisfaction is the degree to which an individual feels positively or negatively about his job on the whole. The autonomy satisfaction is the degree to which an individual feels positively or negatively about the autonomy, which is the degree to which job gives the employee substantial freedom, independence, and discretion in scheduling the work and in determining the procedures to be used in carrying it out. Distribution and communication will also be one of the factors, which influence the workers' performance. These main influencing factors were selected from 24 organizational variables by the multiple stepwise-regression analysis.

Table 1 shows the results of the multiple stepwise- regression analyses for the workers' satisfaction variables which regression equation have statistics significance by Fisher test.

There are only the independent variables, which have the significant main effect from the organizational characteristics as the independent variables.

Table 1.
Results of the multiple stepwise-regression analysis on the satisfaction with the organizational variables as independent variables

Dependent variables	Independent variables of organization	Stepwise-regression			ANOVA of the equation:		Multiple correlation R^2
		Coeff.	T-test	P	F	P	
Job Satisfaction	Constant	2.56	8.16	.0001	1.896	0.041	0.217
	Climate	-0.20	-1.84	.069			
	Personnel Policy	-0.25	-2.54	.034			
Satisfaction of Autonomy	Constant	2.71	6.83	.0001	1.74	0.066	0.203
	Creative Power	0.24	1.89	.062			
	Rationality of Distribution	0.21	1.77	0.81			
Satisfaction of Communication & Distribution	Constant	2.27	6.41	.0001	1.814	0.053	0.209
	Rationality of Distribution	0.30	2.59	.011			
	Effectiveness of Organization	0.25	1.76	.082			

As the results of correlation and multiple stepwise-regression analysis, we found that the satisfactions of Chinese

workers of state-owned enterprises were affected by some organizational variables. The job satisfaction were influenced by the organizational climates and the personnel policy. The workers' autonomy satisfaction were influenced by the creative power and the rationality of distribution.

The rationality of distribution and the effectiveness of the organization act on the workers' satisfaction of the communication and distribution.

4.2 General Findings

As the results of coorelation and step-regression analysis, some general findings were found:

Firstly, the model of Hackman's theory of the job characteristics and motivation existed in Chinese enterprise.

Secondly, some core variables of job characteristics were not independent in organization. They were influenced by some organizational variables. The work entity were affected by the management philosophy, the organizational stability, the cooperative power and the effective motivation. The Skill Variety were influenced by the organizational effective construct and creation power.

Thirdly, the employees' critical psychological states, the cognition and evaluation of work were affected by both organizational characteristics and job characteristics.

Finally, the level of position, the length of working on the current position, and the work orientation were the effective intervening variables which obviously affected the employee's perception and evaluation of his or her job.

According to the results, the reason that the organizational climate influences the workers' job satisfaction, is that there are less management of participation. To the personnel policy, the fact is that the candidate's personnel relationships are paid more attention for promotion than his abilities and performance. The weaker creative power, the less participation, and the less autonomy satisfaction. To the distribution, the principles according to work cannot be carried out completely in state enterprises.

In the study, in a word, we found the organizational climate, personnel policy, creative power, and the rationality of distribution and the effectiveness of organization have the main effecting on the Chinese workers' satisfaction in state enterprise. Only had the organizational reform of state enterprises be done with such above organizational features, the state enterprises could be active thoroughly. To the foreign funded enterprises, the Chinese employee's psychological features should be considered fully in organizational design in order to be suited to local conditions and cultures. It would be a critical technology to run the joint ventures smoothly in foreign country.

Although we have found the relationships between job and organization features and advanced the systematic model in work and organization design or redesign, but the more exact relation have not been indicated. It need a further discussion. It show us It would be a necessary for further study to define the general principles on job design or redesign.

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Are Managerial Women Getting What They Need to Succeed? A Look at Job Satisfaction

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It is well recognized that women in business have not risen to the upper ranks in the same proportion as their male counterparts. In a national study, job satisfaction along with other variables were measured and compared between managerial and executive women to determine if any significant differences exist which may account for this phenomenon .. Results indicated definite differences between managers and executives which may serve as a basis for the design of incentive and development programs.

Keywords: Job Satisfaction, Women, Management

As a student and educator of business, it has frequently been apparent to this researcher that our workplace has undergone changes in recent years some of which have been more easily ingrained into the corporate world than others. Since the early 1970s, one very apparent change has been the increasingly diverse workplace. Minorities and women are more prevalent in managerial jobs than ever before. According to the United States Department of Labor Statistics (1998), women currently comprise more than 50% of the workforce. Anti-discrimination legislation and Affirmative Action programs of recent years have aided in the recruitment of qualified women to fill management track positions, and the percentage of women holding managerial jobs has increased from 16% in 1970 to 42% in 1992 (Powell & Butterfield, 1994). But, this progress may be misleading. Women remain underrepresented in higher ranks of their organizations and professions (Sharpe, 1974). This pattern of under-representation is also prevalent in all areas of business (Jacobs, 1994). So the question is, what can explain this phenomenon? Is there something we as researchers and educators are overlooking about women managers and executives? Are women under-represented because of some job-related factor, some gender-related factor or some systemic barrier. To be able to answer these questions, we must develop a greater understanding of the female executives and managers in our workplace.

In general, the assumption is that workers who exhibit satisfaction perform at higher levels than those who are not satisfied. Likewise, workers who perform at higher levels will likely make a greater contribution to the organization and therefore are more likely achieve greater status within the organization. So it would be logical to assume that those not experiencing satisfaction are not utilizing their energies to reach that next level. Therefore, the purpose of this study as outlined was to examine job satisfaction in relation to selected personal and psychological factors to determine if any statistically significant relationships exist which can offer explanation for the scarcity of women in the ranks of upper management.

Conceptual Framework

The concept of job satisfaction can be addressed from differing vantage points. In its most basic sense, job satisfaction then is the positive emotional state which results from the appraisal of one's job experiences (French, 1990; Mathis & Jackson, 1994). While specific definitions vary, job satisfaction as described by this definition is basically determined by one's own evaluation of the work experience and the rewards received for efforts put forth. If those reward expectations are met, then the job is satisfying. If there is a discrepancy between what is expected and what is received there is a possibility for job dissatisfaction. Argyris (1957) describes job satisfaction as the congruence between what the job actually offers and the expectations the employee has for that job. The greater the congruence between what is desired versus what is received, the greater the satisfaction; the greater the discrepancy the greater the possibility of dissatisfaction. Whatever the formal definition of job satisfaction may be, the underlying
concept is that worker expectations need to be met to assure job satisfaction.

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Many theorists have also argued that it is the degree to which one's needs are met which determines the degree of job satisfaction (Kuhlen, 1963; Porter, 1962; Schaffer, 1953). These researchers provide support for the proposition that job satisfaction is related to the worker's needs and how well the job meets that worker's needs. Schaffer (1953), in one of the first studies to investigate that relationship between needs and job satisfaction, found that one's needs are related to overall job satisfaction. The conclusion was drawn that if that a worker's needs are met the result is job satisfaction and conversely if the needs are not met. While this study is dated, it provided a basis for future research in the area in that it did demonstrate the importance of worker needs to job satisfaction.

The importance of worker job satisfaction is seen especially at a time when organizations are economically forced to find innovative products or strategies to survive. At times like these it is critical that the organization utilize all of the talent in a organization to its fullest, not just that of a chosen few, to provide optimal solutions to business problems. Those who derive the greatest satisfaction will be those whose needs have been met by the appropriate challenge. If the organization does not make optimal use of all of its human resources by not meeting the needs of its workers, job satisfaction may decline. This may cause the company to lose its competitive edge and eventually sacrifice market position or earnings. Low job satisfaction is ultimately detrimental to the organization since it translates into lost productivity and higher resignation rates with the resulting loss of valuable employees not to mention increased training costs due to turnover (French, 1990; Gomez-Mejia, Balkin, & Cardy, 1995). If allowed to continue, worker dissatisfaction can turn into labor unrest, theft, or even sabotage which would severely impair the organization (Andrisani, 1978). For these reasons, it is imperative that the company have a clear understanding of how to provide the proper challenges so that all employees experience optimal satisfaction with their jobs.

While the importance of job satisfaction is rarely debated, the importance of job satisfaction to overall worker performance is a controversial subject. There are those researchers who suggest that job satisfaction contributes to performance (Herzberg, Mausner & Snyderman, 1959; Mathis & Jackson, 1994; Pigors & Myers, 1969; Sorcher & Meyer, 1968) and those who believe it is performance which leads to job satisfaction (French, 1990; Lawler, 1973; Porter & Lawler, 1968). Researchers differ in their conclusion on whether job satisfaction differs by gender. Some researchers report no gender relationships to overall satisfaction while others report a difference. Many of those who report no difference in job satisfaction between men and women attribute it to the lower career aspirations of women (Brockner & Adsit, 1986; D'Arcy, Syrotuik & Siddique, 1984; Murray & Atkinson, 1981. The researchers believe this to mean that female workers derive satisfaction from similar job characteristics but that men place greater emphasis on job autonomy, challenge and opportunity than do women. There may also be a difference in what attributes of a job denote satisfaction for men versus women. Men tend to attach greater importance to extrinsic features of the job, such as pay, autonomy and security, and women attach greater importance to social aspects of the job and relations with supervisors with some emphasis on challenging work (Miller, 1980; Murray & Atkinson, 1981). Some researchers who report a difference attributes it to a perceived lack of career opportunities (Gomez-Mejia, Balkin & Cardy, 1995; Morrison & Von Glinow, 1990; Morrison, White & Von Velsor, 1987).

Further adding to the complexity of the concept of job satisfaction, several researchers have cited some key person-centered variables which may impact a worker's job satisfaction. Marital status and family size have been related to job satisfaction for married women and single parents having been shown to be less satisfied with their jobs than other women due to the external demands placed upon them by their family responsibilities (Gutek, Nakamura & Nieva, 1981). Age also influences job satisfaction in that the impact of stereotyping may be greater for older women than younger. These older women would be expected to lag behind younger women in career progress which may impact their degree of overall satisfaction. Younger women may be given more opportunities to advance which may have an impact on their overall satisfaction as well. In contrast, some researchers have found the opposite to be true (Janson & Martin,1982; Zemke, 1985), that job satisfaction for older workers is generally higher for older workers than for younger workers.

It should be noted at this point that while job satisfaction relates to the job performance or effort a worker exerts, it is only one of many variables which may offer explanation for the scarcity of women in upper ranks. By looking at only job satisfaction as a dependent variable it may also be considered a limitation of this study since other influences may exist. But, nonetheless, satisfaction derived from one's job, whether it be from internal or external rewards, does influence if that person stays with that particular job or profession. Lack of satisfaction with any aspect of a job can cause a decrease in effort and performance which will ultimately limit the career potential of that person.

Research Questions

Since the concept of job satisfaction is complex it makes sense to not only investigate it by itself but also with respect to other antecedent variables. In order to more fully investigate job satisfaction of managerial and executive women, the following research questions were examined within the context of the preceding analysis.
Research Question #1: What is the job satisfaction of managerial and executive women?
Research Question #2: What is the difference in job satisfaction between managerial and executive women?
Research Questions 3: How do the psychological variables relate to the respondent's job satisfaction?
Research Question 4: How do the personal variables relate to the respondent's job satisfaction?

Method

This study was designed to examine the job satisfaction and antecedent variables that contribute to job satisfaction in managerial and executive women employed in a variety of corporations. The subjects of the study consisted of a random sample of 1,000 managerial and executive-level women across the United States. The sample was drawn from the Dun & Bradstreet (D & B) Information Services database of more than 10 million companies. The search was further limited to businesses which have at least $5 million in sales and whose Standard Industrial Classification (SIC) code started with 20-89 to ensure similar organizational characteristics. The instruments included in the survey were the short form of the Bem Sex-Role Inventory (BSRI) used to assess the person's sex role classification, Rotter's I-E Scale for locus of control orientation, and the Job Descriptive Index (JDI) to measure the five different facets of job satisfaction. The demographic questions requested information about job level, job tenure, age, education level, life status, children at home and taken leaves of absence. The response rate for this study was 53%.

Bem Sex Role Inventory

Gender role was determined by the masculinity and femininity scales on the short form of the BSRI. The instrument is composed of 30 items, 10 relating to masculine characteristics, 10 to feminine characteristics and 10 filler items. The 10 filler items are determined to be socially desirable for both genders. Characteristics are scored on a scale from a low or "never or almost never true" (1) to high "always or almost always true" (7). An individual is considered masculine if the score on the masculine scale is higher than the median and the feminine score is lower than the median. The opposite is true for the feminine classification. Androgynous individuals score higher than the median on both scales and undifferentiated individuals score below the median on both scales

The BSRI has been subjected to intense methodological testing and it has stood as an instrument with internal consistency and reliability. The BSRI is an instrument that is not without its critics. Certainly, there have been many social attitude shifts in that time period and few will deny that we are more tolerant of behavior which is outside the norm for a given sex. But these cultural shifts have not been as evident in the corporate environment as shown by the statistics and review of the literature. The BSRI has also been assessed for its validity and has been found to still be a valid instrument for assessing gender roles (Holt & Ellis, 1998).

Rotter's I-E Scale

Rotter's I-E Scale is one of the most widely used instruments in the assessment of locus of control (Lefcourt, 1981; Rotter, 1990. This scale is a 29-item forced choice instrument which is used to determine the degree of influence one believes is had over one's life. Scores can also range to a high of 23, which would indicate the individual believes that all rewards are from external forces. In general, the higher the score, the more external the person is presumed to be. Several other scales have been developed for specific populations such as children, the elderly or infirmed. Rotter's scale was chosen for this study on the basis of it being proven sound over a wide variety of applications (Lefcourt, 1981).

Job Descriptive Index

Developed by Smith, Kendall and Hulin (1969) in a 10-year effort to produce a reliable and valid measure of worker satisfaction, the Job Descriptive Index (JDI) is one of the most recognized instruments for assessing job satisfaction (Iaffaldano & Muchinsky, 1985; Rasmussen, 1989). It is based on multiple facets rather than one global approach to job satisfaction. The instrument contains a total of 72 descriptor items which may be positive or negative in nature. There are five areas, or sub-scales, the JDI examines (the work itself, pay, promotions, supervision, and co-workers).

Extensive data regarding the validation of this instrument is presented in the authors' work Measurement of Satisfaction in Work and Retirement (Smith, et al., 1969, pp. 38-68). The JDI has undergone much testing as to its content validity, construct validity and reliability. These data would suggest the JDI is a consistent measure of job satisfaction. It is noted that this instrument is designed to examine job satisfaction at one given moment in time and may not be reliable over a long period of time. Like the BSRI, the JDI is not without its limitations. Since it was designed in the 1960's it may be somewhat dated given the recent interest in intrinsic job characteristics. Of the five sub-scales, only the work subscale and possibly the promotions sub-scales may be considered ones which reflect the intrinsic aspects of a given job. The other scales clearly are related to extrinsic characteristics. Even with this limitation, the JDI is a thoroughly tested instrument which has the ability to relate the employee's level of job satisfaction, which is why it was chosen for this study (Buckley, Carraher, & Cote, 1992).

The researcher attempted to examine the job satisfaction of the respondents with respect to several variables. Since the purpose of this study was to examine any differences which may exist between lower managerial and executive level women, the responses were examined with regard to job level. All of the antecedent variables were examined with regard to their impact on job satisfaction by utilizing t-tests, Pearson Product-Moment Correlation (PPMC) and regression.

Results And Findings

The results of this study are presented and analyzed with respect to each research question.

Table 1
Respondent Characteristics Mean Scores

Subscale	Manager	Executive	t-test	*p*
Job Satisfaction				
Work	36.86	41.44	4.57	<.001
Pay	38.65	45.99	7.35	<.001
Promotions	23.35	33.66	10.31	<.001
Supervision	38.56	43.36	4.80	<.001
Co-workers	40.09	44.04	3.95	<.001
Locus of Control	8.23	7.50	-0.73	.036
Gender Role – Undifferentiated	.16	.07	-0.10	.003
Gender Role – Feminine	.19	.09	-0.11	.002
Gender Role – Masculine	.32	.48	0.17	<.001
Gender Role – Androgynous	.32	.36	0.04	.401
Age	40.86	45.05	4.20	<.001
Children	.44	.48	0.04	.360
Leave of Absence	.29	.43	0.13	.003
Life Status	1.65	1.70	0.05	.264
Job Tenure	2.68	2.98	0.31	.012

Research Question #1: What is the job satisfaction of managerial and executive women? Table 1 presents the scores for both managerial and executive women within the context of each sub-scale of the JDI. The five sub-scales focus on satisfaction with the work itself, pay, opportunities for promotions, coworkers and supervision. It is believed that these five sub-scales measure five, mostly distinct, areas where one may be either satisfied or dissatisfied with the job at the same time. In other words, it is possible to be satisfied with the work itself yet dissatisfied with the opportunities for promotion or pay at the same time. Executives consistently scored higher through all five sub-scales indicating a higher level of satisfaction in these areas.

Research Question #2: What is the difference in job satisfaction between managerial and executive women? Table 1 also shows the difference in sub-scales scores for the two groups. This difference was least in the co-workers scale and greatest in the opportunities for promotion sub-scale. Female executives were more satisfied with their jobs than managers especially with the opportunities for promotion. The difference in this particular sub-scale, since it varies so much more than the others, might cause one to attribute more managerial dissatisfaction with a lack of opportunities for promotion.

From these findings, one might conclude that managerial women do have career aspirations that are at least equal to their executive counterparts. Frustration or dissatisfaction with the opportunities for promotion would indicate that there was an aspiration toward higher levels which is not being met. The inability to reach that goal may be causing the lower satisfaction scores.

Another conclusion which could be drawn from these results could be that women do not necessarily work for more intrinsic and social rewards as stated by some researchers (Miller, 1980: Murray & Atkinson, 1981). The scores for satisfaction with opportunities for promotion were lowest for both managerial and executive women. This indicates that women do need the outward recognition, autonomy, power and status that would accompany a promotion. The scores representing the differential in satisfaction with pay was the second greatest indicating that pay is an important issue to managerial women. Since pay is an obvious extrinsic factor, this would indicate further that women do find the extrinsic factors of a job important. The scores representing social aspects of a job (co-workers and supervision sub-scales) were higher and would support that there is more satisfaction with the social components of work. From this one could conclude that the social needs are more aptly being met or that these needs are of lesser importance when compared to such areas as pay.

Research Question 3: How do the psychological variables relate to the respondent's job satisfaction? Higher level executives were found to be more internally control oriented while managers were significantly more externally control oriented than executives (see Table 1). In correlating these scores to those for the job satisfaction sub-scales, we can see that the control orientation is significant to job satisfaction, more so for managers, in the negative direction (Table 2). This means that those who experienced greater job satisfaction scored low in control orientation, or had a more internal control orientation. Managers typically scored higher on control orientation, or were more externally control oriented, and lower on job satisfaction.

With regard to gender role, executives were consistently more masculine than the managers who were found to be more feminine and undifferentiated in their gender roles (Table 2). This finding would indicate a definite gender role difference between managerial and executive level women in this study. Further, a significant negative correlation to job satisfaction was also found for executives in the undifferentiated category (Table 2). This would indicate that executives who do not identify with any gender role category experience significantly lower job satisfaction in most sub-scales.

These findings would imply that the identification with at least some gender role is important to the individual seeking satisfaction with one's job. Also, since most executives were found to have a more masculine gender role, the stereotypical view of an upwardly mobile manager as being mostly masculine still would hold. The perception of a high-level executive is then consistent with past findings despite diversity initiatives and increased numbers of women in the workforce. Therefore, not much has changed in recent years as to our view of what traits executives should model.

Research Question 4: How do the personal variables relate to the respondent's job satisfaction? In the pay, work, supervision and co-workers sub-scales, the married individuals were more satisfied than most other status categories (Table 3). This was true for both managers and executives for the work sub-scale. This finding reflects the opposite of what is typically believed and that family responsibilities do not interfere with the satisfaction one can derive from a job.

Table 2
Psychological Variable Correlations with Job Satisfaction Sub-scales

	Work	Pay	Promotions	Supervision	Co-workers
Manager –					
Locus of Control	-.225***	-.223***	-.194***	-.180**	-.136*
Gender Role-Undifferentiated	-.141*	-.017	-.079	-.089	-.022
Gender Role-Feminine	.051	.006	.061	.019	.138*
Gender Role-Masculine	.107	.104	.062	.101	-.011
Gender Role-Androgynous	-.020	-.086	-.044	-.042	-.067
Executive					
Locus of Control	-.167*	-.201**	-.016	.028	-.054
Gender Role-Undifferentiated	-.212***	-.148**	-.233**	-.121	-.170*
Gender Role-Feminine	-.038	-.080	.023	.060	.008
Gender Role-Masculine	.030	.055	.002	.002	-.004
Gender Role-Androgynous	.104	.089	.110	.026	.099

*significant at the p=.05 level
**significant at the p=.01 level
***significant at the p=<.001 level

Table 3
Personal Variable Correlations with Job Satisfaction Sub-scales

	Work	Pay	Promotions	Supervision	Co-workers
Manager –					
Age	.314***	.143*	-.168**	.127*	.083
Children	.091	.023	.090	.092	.001
Leave of Absence	.086	.078	.077	.095	.014
Life Status	.227***	.161**	.050	.071	.089
Job Tenure	.229***	.191**	-.106	.086	.098
Executive					
Age	.289***	.125	-.234**	.073	.064
Children	-.037	-.118	-.041	-.065	.027
Leave of Absence	.030	.053	-.060	-.029	-.061
Life Status	.152*	.004	-.072	.128	.110
Job Tenure	.004	.183*	.163*	-.055*	-.115*

*significant at the p=.05 level
**significant at the p=.01 level
***significant at the p=<.001 level

Older women were found to have significantly higher levels of satisfaction in the work, co-worker, pay and supervision sub-scales. This was especially true for managers and not necessarily for executives. A significant negative relationship was found between the promotions sub-scale and age indicating that older workers were less satisfied with their opportunities for promotion which might be understandable.

Those executives who had taken a leave for any reason showed a significant relationship to having higher job satisfaction in the work sub-scale. No other significant relationships were found. This finding would suggest that there might no longer be a stigma attached to having taken a leave of absence.

In some sub-scales it is also shown that increased job tenure relates positively to job satisfaction. Staying longer in a job tends to be favorable for satisfaction with work, pay and promotions but it works negatively for the supervision and co-workers sub-scales.

Conclusions And Recommendations

In general, the findings of this research study offer some but few surprises. It was demonstrated that there was a significant difference in the job satisfaction of executive and managerial level women which is not as surprising as it is disturbing. The fact that such a significant difference exists (p=<.001) between the two groups is cause for concern that the work place is not meeting the needs of a large proportion of its work force. The lower satisfaction of these managers can result in decreased performance and frustration leading to that person's exit from the workplace. This would be costly for any company who intends to remain competitive.

Some promising results of the research are that women at managerial levels do feel a sense of satisfaction from the traditional extrinsic rewards since the lack of these rewards produced dissatisfaction. Women do value good pay, opportunities for promotion and the traditional perks which typically come with higher management levels along with a sense of accomplishment or challenge. Women also did not view their family or family obligations as causing conflict with their jobs. The fact that executives with families had greater satisfaction than those who did not leads one to believe that the family may provide a relief from the stresses a high level job. Equally promising is that the women who had taken a leave of absence did not feel less satisfied with their jobs or opportunities for promotion that those who did not. From this, it would appear that the woman who can make it into the upper ranks can "have it all". Or, since the women executives in this study were more masculine and internally control oriented, is this more the reinforcement of the prevailing stereotype? It would appear that the current female executive is a product of her environment and may not have really blazed new trails. She instead may have just learned to play the rules of an existing game where she allowed to join in.

In general, these findings represent the changes our society has undergone in recent years. Women are in the workforce to stay and are career-minded. They value many of the same rewards as men and they expect to be afforded opportunities to gain those rewards. Anything less will produce dissatisfaction and decreased performance. Confounding this, however, is the prevalence of the male stereotype for an executive which has not changed with society. While we may believe we are an enlightened society where discrimination and stereotypes are disappearing, the results posed here show this is not the case. It is clear that educators, trainers and practitioners need to focus more on the gender diversity initiatives already underway and perhaps revise them to more effectively address gender stereotypes. Any other course of action could result in an overall decrease in productivity and competitiveness for the organization and would have a detrimental effect on society in the long run.

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An Assessment of the Validity of the Natural Work Goals Profile

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The purposes of this study were to determine the construct validity and reliability of the Natural Work Goals Profile with respect to male junior and mid-level enlisted Army personnel. Research methods involved administering a satisfaction/dissatisfaction scale concurrently with the NWPG, conducting a test-retest method, and comparing participants' vitality ratings with ratings of overall effectiveness by participants' senior enlisted supervisors.

Keywords: Goals, Motivation, Vitality

There is a well-established body of literature distinguishing between worker satisfaction and worker motivation (Herzberg, Mausner, and Snyderman, 1959). Herzberg and his associates have asserted that some job factors lead to satisfaction, whereas other factors only prevent dissatisfaction, resulting in the position that satisfaction and dissatisfaction are separate continua. Nevertheless, the concept of satisfaction is consistently used to refer to conditions that lead a person to feel comfortable and contented with their work, which tends to reduce action. At the same time, Herzberg's research suggests that there is a difference between satisfaction or hygiene factors and motivation factors. Motivation is associated with intrinsic or internal job factors, while hygiene is associated with extrinsic or external factors to the job itself. Where hygiene factors are pretty much controlled by the organization and serve to reward adequate service, motivators are controlled by the individual and serve as the basis of action. The classic motivation factors, however, do not explain very well what accounts for enthusiasm, excitement, vigor, and the expenditure of high levels of energy on the job. The concept that does account for enthusiasm is called vitality (Miller, 1977; Harmon and Jacobs, 1985).

This research focuses on the elements of a vitalizing work environment and distinguishes between both hygiene and motivation elements. In other words, this is a study of vitality, and theoretically hygiene is not central to the concept, although vitality may be part of the domain of motivation. The characteristics of vitality tend to articulate the three leadership goals found in the U.S. Army's Character Development program for the 21st Century--team spirit, work performance, and values (U.S. Department of the Army, 1997). The purpose of the Character Development program is to enhance moral character and boldness in our nation's soldiers. The similarity of the goals of the military and vitality goals expressed in the literature of the business world raises the question as to whether military personnel express vitality in ways similar to other segments of the U.S. population.

A new instrument, the Natural Work Goals Profile (NWGP), was designed to measure goals that express vitality; it has been used in other studies (Pace, Regan, Miller, & Dunn, 1998), but not with a population of military personnel. The purposes of this study were to estimate the construct validity and the reliability of the Natural Work Goals Profile, using a population of junior enlisted and mid-level Army personnel in an artillery battalion at Fort Hood, Texas. Validity was assessed by comparing scores on the NWGP with a widely used and purportedly valid instrument, the Wood's Satisfaction/ Dissatisfaction Scale (Wood, 1973). The WS/DS was selected due to its prominence in motivation studies over the last two decades and its reliability and validity record (as summarized in Perkins, J.M., 1989). Following Herzberg's paradigm, Wood's instrument yields separate scores for motivation and for hygiene factors. Internal reliability of the NWGP was examined by a test-retest method. In addition, this study attempted to repeat a similar study of customer service representatives (Pace and Jaw, 1993) by determining the extent to which ratings of the overall effectiveness of soldiers were correlated with scores on the instruments.

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A Model of Revitalization

Work vitality, at its core, consists of the personal energy released by people in organizations. Thus, the key to revitalization rests in an ability to release the energy of members of organizations. The process of vitalization is quite likely rather complex and should be represented by a multiple-stage model. The model selected for this study (Pace, 1995) appears to provide a more realistic representation of the revitalization process than other models (Miller, 1977; Harmon and Jacobs, 1985; Harrison, 1987; Hawley, 1993; Kilmann, 1994; and Petrina, 1994). This model depicts six factors involved in vitality: (1) the work system, (2) work perceptions, (3) natural growth goals, (4) vitality, (5) outputs, and (6) feedback.

The model describes the way in which vitality emerges from elements of the work system through perceptions of work roles, is ultimately triggered by the possibility of achieving one or more natural work goals, and is sustained through feedback about the successful achievement of the goals. In a model of vitality, it is important to account both for factors such as elements of the work system that deter and facilitate the expenditure of energy and for factors, such as goals and task strategies, that trigger the release of energy by people in organizations.

The literature on the work system and how it affects expressions of vitality are legendary, ranging from Whyte's The Organization Man (1956) to Rifkin's The End of Work (1996), and includes Packard's The Pyramid Climbers (1962), Peter and Hull's The Peter Principle (1969), Townsend's Up the Organization (1970), Terkel's Working (1972), Naisbitt & Aburdene's Re-inventing the Corporation (1985), Bardwick's The Plateauing Trap (1986), Hammer and Champy's Reengineering the Corporation (1993), and Ambrose's Healing the Downsized Organization (1996). The list could be extended, but the point is made that organizations, bureaucracies, and work systems have mechanisms that stifle, muzzle, and deter the release of the natural energy possessed by their members.

Stage One in a concept of vitality, therefore, is the work system, and includes everything in the work environment, such as individual workers, the work itself, managerial or leadership practices, organizational structure, and organizational guidelines that smother, strangle, restrain, curb, repress, silence, mute, and generally extinguish most signs of energy being exhibited. In the military context, the work system includes individual soldiers, the chain of command, military occupational specialties, various leadership manuals, grade structure, and standard operating procedures. Elements of the work system have an impact on workers so as to result in either positive or negative work perceptions.

The effect of positive work perceptions is *con anima*, to act in a spirited manner or with spirit. We normally associate positive work perceptions with enthusiasm, animation, and energy. Positive work perceptions energize workers. Four work perceptions--performance, opportunity, fulfillment, and expectations--that relate to employee vitalized behavior have been identified by Pace (1995) and Pace and McGregor (1996). In addition, research by Thomas and Velthouse (1990) and Spreitzer (1995) have also revealed four similar perceptions that comprise the concept of "psychological empowerment" which may well be a synonym for vitality, since the four cognitions, in both studies, reflect people's orientations to their work roles and have very similar definitions.

Stage Two, therefore, consists of work perceptions. Workers' perceptions evolve over time as they experience the workplace and attempt to make sense of it in terms of their own particular personality and attitudes. Workers, therefore, can experience the same work conditions yet perceive them differently (Senge, 1990). The four basic work perceptions have the following characterizations:

Performance. What employees think about their ability to do their work at high levels of competence in the organization, referred to by Bandura (1977) as self-efficacy and by Druckman and Bjork (1994) as self-confidence, or Thomas and Velthouse's (1990) competence.

Opportunity. What employees think of the extent to which they can influence or have an impact in the organization (Kanter, 1976; Wheatley, 1981); this also involves feelings of optimism (Seligman, 1991), or Thomas and Velthouse's (1990) impact.

Fulfillment. How employees feel about the amount of autonomy and self-determination they have in the organization (Harrison, 1987; Kilmann, 1994); this also concerns a sense of having a choice in how their work is done in the organization (Hackman and Oldham, 1980), or Thomas and Velthouse's (1990) self-determination.

Expectations. How well employees feel their aspirations are being attained in the organization (Abel,1971), which also involves the meaning of work and how it matches workers' own standards and values (Hackman and Oldham, 1980), or Thomas and Velthouse's (1990) meaning.

In sum, vitality is defined as a psychological construct that is manifest by four cognitions or perceptions: performance, opportunity, fulfillment, and expectations. Together, these four perceptions of work reflect an active orientation to work roles and combine to create an overall construct called vitality in the workplace.

The third issue, which a model should represent, is the process by which work perceptions are released to affect the behavior of organization members in extraordinary ways. This part of the model was derived from research on the efficacy of goal-setting in triggering action. The goal perspective is summarized in the explanation that "once the individual has a goal and once he or she chooses to act on it, the three direct mechanisms— effort, persistence, and direction— are brought into play more or less automatically" (Locke and Latham, 1990, pp. 87-94). Locke and Latham (1990) also argue that "sometimes, however, these automatized mechanisms are not sufficient to attain the goal; the individual also has to engage in a process of problem solving in order to discover how the goal can be reached. This process involves discovering suitable task strategies. Task strategies are conscious or deliberate action plans motivated by goals." (p. 87).

Stage Three in the vitality process, therefore, consists of setting natural work goals. Natural work goals are the ideas, the aims, and the purposes that are innate or natural and which enable people to grow in capacity to produce, to serve, or to perform. Natural work goals give intensity, persistence, and direction to actions that result in people performing more effectively and efficiently than they did before the goals were set. Anything that diminishes or deters the achievement of natural work goals blocks vitality. Pace (1996, pp.19-20) identified twelve natural growth goals:

1. To stretch and work at one's highest level.
2. To use all of one's capacities.
3. To discover novelty by exploring new things.
4. To be a prime mover with a mission and calling.
5. To be totally involved in a project and reluctant to let others down.
6. To contribute to the well being of others.
7. To have one's efforts add up to something meaningful and significant.
8. To be free to effectuate one's own ideas.
9. To do things in one's own unique, personal, and individual way.
10. To have high aspirations for doing more than what seems possible.
11. To participate in the glory, pleasure, and pride of accomplishment.
12. To have a vision of achieving something worthwhile.

Past research affirms the power and necessity of intentionally setting personally meaningful goals in the workplace. Setting goals accesses great sources of personal energy (Gardner, 1963). Setting goals is a human need. Goals are required for human survival, happiness, and well-being (Locke and Latham, 1990). Natural work goals, even more than technical goals, provide for the survival, happiness, and well-being of workers or members of organizations.

The close interrelationship between the four work perceptions and the twelve natural work goals is indicated by the fact that each work perception is associated with three work goals. The natural work goals are derived directly from the work perceptions. Thus, in the military context as in others, the vitality that soldiers feel is revealed by their responses to how well the twelve natural work goals, derived from the work perceptions, are being achieved in their work roles in the organization. The assessment of natural work goals may, therefore, contribute to a better understanding of how well the Army's leadership goals are being achieved. The natural consequence of having positive feelings about the work environment and achieving natural work goals are high scores on the Natural Work Goals Profile. High scores indicate that workers are experiencing feelings of vitality.

Stage Four in the model simply indicates that proactive energy is being revealed as a consequence of positive work perceptions and achieved natural work goals. If large numbers of personnel have high scores, we may infer that the organization is vitalized. Vitalized organizations include many of the following features (Harrison, 1987, p. 10):

1. The organization involves the whole person.
2. Altruism abounds because people sense value in the work that transcends personal advantage.
3. People willingly labor long hours.
4. People anticipate what needs to be done without direction from superiors.
5. High morale, teamwork, and a sense of camaraderie exist.
6. People work with a sense of urgency.

In the military context, these characteristics represent the intent of the Army Core Values: loyalty, duty, respect, selfless service, honor, integrity, and personal courage (U.S. Department of the Army, 1997). The implication is that a vitalized Army is not only desirable but also critical for the future.

Stage 5, outcomes, is, therefore, the evolution of satisfied, often motivated, but now consistently vitalized organization members. The vitalized organization is the outcome sought. Within the military context, outcomes may relate to the Army's theme of job performance. Officers and enlisted soldiers alike must perform to a standard. Meeting these standards builds cohesion and trust among unit members (U.S. Department of the Army, 1997). However, a truly vitalized organization would certainly go beyond, as suggested above, meeting prescribed standards.

The sixth and final stage, feedback, describes the process whereby workers get information from the organization and learn about the results of their efforts to attain personal as well as organizational goals. Feedback, that confirms and reinforces goal accomplishments, signals to workers that their efforts are both appreciated and exceptional. On the other hand, feedback that fails to recognize the effectiveness of effort, leads workers to discouragement, discontentment, and lethargy. In the military context, feedback takes the form of "on the spot" corrections and informal counseling sessions, but it usually focuses on technical procedures and actions rather than on natural work goals. Such an emphasis can only lead to either satisfied or dissatisfied and possibly to motivated or de-motivated soldiers, but certainly not to vitalized soldiers.

In summary, the vitality model describes how a person's level of proactive energy is influenced by elements in the work system, the person's positive or negative work perceptions, and the person's ability or inability to achieve natural work goals in the work environment. Theoretically, the organization is responsible for assisting or at least allowing organization members to set natural work goals and for doing anything reasonable to enhance the achievement of those goals. With respect to the Army, the assessment of natural work goal perceived achievement may very likely assist leaders in evaluating progress toward achieving the Army's goals of team spirit, performance, and values.

Research Methods

The subjects in this study were male junior to mid-level enlisted soldiers (n=250) in an artillery battalion at Fort Hood, Texas. Fort Hood is the nation's largest Army post, which allowed for the selection of a cross-section of soldiers in many phases of a military career. However, there are two notable differences between this population and the Army at large:

1. The Army categorizes artillery battalions as "combat arms," which comprise only 13.6 percent of the Army, according to the Defense Manpower Data Center (U.S. Department of the Army, 1997).
2. There were no females represented in the study since the battalion comprises combat arms. Only 1.8 percent of soldiers serving in combat arms are female.

The sample for this study comprised 186 junior and mid-level enlisted members of an artillery battalion who attended a training session in May 1998 as part of preparing for peacekeeping operations in Bosnia-Herzegovina. Comparison of the demographic data of the sample with the general Army population in terms of age, civilian education, years in military service, and military occupation specialty (MOS) indicated two exceptions to comparability. First, higher-ranking soldiers tended to be absent from the training, causing the sample to be over-represented by junior enlisted soldiers; and second, there was an under-representation of Headquarters and Service Batteries.

Participants provided self-report measures on two instruments: the Wood Satisfaction/Dissatisfaction Scale and the Natural Work Goals Profile. The WS/DS assesses job satisfaction in terms of Herzberg's Hygiene-Motivation paradigm (Herzberg, Mausner, and Snyderman, 1959). The WS/DS was developed to address each of the hygiene and motivator factors. A review of literature over the last two decades indicates a preference for hygiene studies to focus on educators, resulting in terminology unique to educational institutions (Wood, 1973). Hence, it was necessary to adapt the WS/DS to unique military terminology. One anomaly with the WS/DS is that its title is misleading. As explained above, motivation and hygiene factors may be considered separate factors, each having their own scales. Motivation ranges from motivated to unmotivated, and hygiene ranges from satisfied to dissatisfied. Fortunately, Wood's Satisfaction/ Dissatisfaction Scale measures both factors. The

Natural Work Goals Profile contains twelve natural work goal statements, derived from structured interviews and a literature review (Pace, Mills, and Stephan (1990). The Natural Work Goals Profile (NWGP) consists of two main sections in addition to a demographic section. The quantitative section asks for participants to rate attainment of each of the twelve natural work goal statements on a six-point Likert scale. The qualitative section queries participants for suggestions as to what in the organization is hindering natural work goals and considerations for reducing hindrances. Thus, the NWGP is capable of providing diagnosis as well as suggesting courses of action.

Five questions directed this research effort:

1. What is the reliability of the Natural Work Goals Profile as shown by the correlation between initial scores and follow-up scores two weeks later?
2. What is the correlation between scores on the Natural Work Goals Profile and motivation scores on the Satisfaction/Dissatisfaction instrument?
3. What is the correlation between scores on the Natural Work Goals Profile and hygiene scores on the Satisfaction/Dissatisfaction instrument?
4. In the presence of other predictors, what will the strength of correlation be between motivation scores and NWGP scores, and between hygiene and NWGP scores?
5. What is the correlation between scores on the Natural Work Goals Profile at the initial survey time and overall effectiveness ratings on a six point and a three-point scale?

In May, 1998, the Natural Work Goals Profile (Pace & McGregor, 1996) and the Wood's Satisfaction/ Dissatisfaction Scales (Wood, 1973) were administered to members of an artillery battalion stationed at Fort Hood, Texas, during a mandatory training session. The qualitative and demographic data from the survey session were then coded, entered, and analyzed using SPSS. The qualitative data is beyond the scope of this report.

Results and Findings

The research procedures were designed to estimate construct validity and reliability of the NWGP. Construct validity can be indirectly assessed through convergent and discriminant analysis. Convergent validity is the ability of a set of scores to focus on the target construct. Discriminant validity is the ability of a set of scores to differentiate the construct being studied from similar constructs. Research Questions 1, 2, 3, and 5 were addressed by finding Pearson's product-moment correlation coefficients. Research Question 4 was addressed by conducting a series of regression analyses. The results may be summarized as follows:

Research Question 1. The test-retest correlation of .57 shows a relatively low coefficient of reliability, thus, the answer to question 1 is that the test-retest reliability is weak.

Research Question 2. When motivation scores (MOTIV) are correlated with NWGP scores, the correlation coefficient is 0.671, a value significant at the .01 level of confidence. This suggests that there is a relatively strong relationship between natural work goals and the motivation factors.

Research Question 3. When hygiene scores (HYGN) are correlated with NWGP scores, the correlation coefficient is 0.585, a value significant at the .01 level of confidence. This suggests that there is also a relationship between natural work goals and the hygiene factor, although weaker than with the motivation factor.

Research Question 4. Several test runs were conducted of predictor variables as to their strength in predicting vitality (see Table 1, Results of Regression Analyses). The first run was a stepwise regression that resulted in the sole inclusion of the motivation factor where its partial equaled 0.6707. A second run consisted of a regression by progressive entry, one predictor at a time. Motivation scores (MOTIV) were entered first, followed by civilian education level (EDUC), hygiene scores (HYGN), number years of military service, and military grade. Adding predictors beyond MOTIV constituted no additional value based on significant F change. A third run was performed using only hygiene and motivation in a single block. Their respective partials were hygiene at .1018 and motivation at .4154. A fourth run was performed in progressive blocks with motivation entered first and hygiene second. An F change of .1678 indicated that hygiene was not significant after motivation was entered. A fifth run was performed in progressive blocks with hygiene entered first and motivation second. The results indicated a significant addition even after hygiene was entered. These results suggest that the motivation factor is the strongest predictor of scores on the Natural Work Goals Profile.

Research Question 5. Neither the six-point evaluation of effectiveness (R = .09, n.s.) nor the three-point evaluation of effectiveness (R=048, n.s.) revealed statistically significant correlations with scores on the Natural Work Goals Profile. These results suggest that scores on the NWGP have only a weak relationship with ratings of overall effectiveness.

Conclusions

Vitality was postulated to be a set of factors that were related to but independent of traditional motivation concepts. The data from this study suggests that the original assumptions may not have been as accurate as desired. One explanation may be that Army ratings of soldier effectiveness are based on criteria that do not reflect vitality of the soldiers. If the Army's concern about the Character Development level of soldiers is a reality, then it follows that the criteria used in rating solders must reflect sources of vitality. At the present, ratings of soldiers apparently do not capture the essence of vitality. This may be an issue that needs looking into as part of the effort to cultivate moral character, boldness, and audacity in contemporary soldiers.

Scores on the Natural Work Goals Profile were more strongly correlated with motivation scores from Wood's Satisfaction-Dissatisfaction instrument than they were with hygiene scores. The data suggest that natural work goals are more a part of the specific domain of motivation factors, than they are of hygiene factors. Additionally, each of the five regression analyses identified motivation scores as the superior predictor of NWGP scores. The implication is that scores on the NWGP tend to reflect the concept of motivation more than satisfaction. This is consistent with earlier assumptions and supports the general claim that the NWGP is in fact measuring a motivation factor, strengthening the case for construct validity.

Table 1.
Results of Regression Analyses

Regression Analysis Type: Of F	R Sq.		S.E.	F Score	Sig.
1. Between MOTIV and NWGP					
MOTIV	.449	7.096	150.48	.0000***	
2. By Progressive Entry One Predictor at a Time					
MOTIV	.449	7.096	150.48	.0000***	
EDUC	.460	7.048	70.04	.0619	
HYGN	.464	7.041	52.56	.2494	
Years in Service	.468	7.053	31.72	.2711	
Military Grade	.468	7.072	26.28	.9603	
3. Using Only MOTIV and HYGN in a Single Block					
HYGN and MOTIV	.455	7.078	76.576	.0000***	
4. Progressive Blocks with MOTIV First and HYGN Second					
MOTIV	.449	7.096	150.486	.0000***	
HYGN	.456	7.078	76.576	.1678	
5. Progressive Blocks with HYGN First and MOTIV Second					
HYGN	.342	7.760	95.665	.0000***	
MOTIV	.456	7.078	76.576	.0000***	

* $p < .05$. ** $p < .01$. *** $p < .001$

Contribution to New HRD Knowledge

The issue that remains concerns the extent to which scores on the NWGP actually target the higher levels involved in motivation and could be identified as a separate factor called vitality. The question is whether vitality and scores on the NWGP, within content theories of motivation (represented by Maslow, Alderfer, and Herzberg), are a function of trying to satisfy higher-level needs, such as the social, esteem, and self-actualization. Then, within process theories of motivation (represented by expectancy and equity theories), do these results provide additional

support for the validity of goals and expectations in bringing about action? Nevertheless, the identification of natural work goals may be an important refinement in our views of what releases energy and enthusiasm in the workplace.

"Motivation" is still one of the key topics that appear on the agendas of managers and leaders in organizations. Even with all of the theorizing and efforts to translate principles of motivation into useful management practices, human resource development specialists are still quite puzzled about how to move organization members from lethargy to action. The most common methods continue to be those derived from behavioral models that use the infamous cattle-prod method or the carrot and the stick. Those approaches are still somewhat ineffective, and fail to sustain so-called motivated behavior.

Making a shift in paradigms from motivation to vitalization may open the way to think about "motivation" as aiding people in the achievement of natural work goals rather than as kicking, goading, pushing, shoving, wheedling, cajoling, and trying to cause people to act. To paraphrase Harrison (1987), you cannot design a work system that compels enthusiasm. Serious consideration of a natural work goals approach to enhancing worker performance may be just the thing for the year 2000 and beyond.

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